

Please amend the CLAIMS as follows.

~~Claim 9, line 1,~~ please replace "claim 4" with --claim 3--.

#### REMARKS

The Title has been changed, headings have been added to the specification, and a typographical error in the claims has been corrected, as required and suggested by the Examiner. The Applicants thank the Examiner for this attention to detail. References to particular claim numbers in the Summary of the Invention have been deleted.

The Examiner has rejected claims 1-10 under 35 U.S.C. 103(a) as being unpatentable over Steele et al (USP 5,742,779, hereinafter Steele) in view of IBM Technical Disclosure Bulletin, Vol. 35, Issue 4B, September 1992, pp. 227-232 (hereinafter, the IBM TDB). The Applicants respectfully traverse this rejection.

The Applicants teach a unique user interface for an information processing system. In one field of a display, a first sequence of icons is presented, and, in a second field of the display, a second sequence of icons is presented, in dependence upon the particular icon of the first sequence of icons that is currently being presented. An advantage of this interface, in addition to potentially conserving display space, is the preservation of the context presented to the user (Applicants' pages 2 and 3). Different areas of the screen contain different sets of icons, so that the spatial presentation conveys context information. In a top-to-bottom arrangement of a hierarchy of icons, for example, the icon's hierarchy level is immediately apparent by its vertical location on the screen.

There are many alternative ways of presenting a hierarchical arrangement of items, and many alternative ways of using the spatial context of a presentation. The Applicants present an arrangement wherein the spatial context is related to the hierarchical structure, whereas other systems, such as the system taught by Steele uses the spatial context to communicate function. In Steele's arrangement, one area of the screen is used for selection, while another area of the screen (the "Elevator") is used to illustrate the current hierarchy. That is, the spatial arrangement of the icons does not convey the hierarchy of the icons. Each icon, regardless of its position in the hierarchy

will initially appear in the selection region, and then, if selected, will be moved to the Elevator region. As is known in the art of ergonomics, the choice of use, or miss-use, of spatial context can have a substantial impact on the effectiveness of a user interface. Steele's arrangement has the advantage that the same function (selection) is performed in the same area, regardless of hierarchy level. This is particularly advantageous for handicapped users, the expressly intended beneficiaries of Steele's invention (Steele, column 1, lines 18-26). The Applicants' arrangement has the advantage that icons consistently appear in the area allocated to their position in the underlying data-structure.

In like manner, there are many alternative ways of presenting the options available at each level of the hierarchy. In the Applicants' invention, the options are presented sequentially, in the aforementioned spatial region corresponding to the hierarchy level. In Steele, all of the options at each hierarchy are presented at the same time, in the aforementioned spatial region used for selection. The choice of presentation can also have a substantial impact on the effectiveness of the user interface. A sequential presentation of options at the current hierarchy level allows for more display area per option, but at the cost of the time required to provide the option to the user. A simultaneous presentation of all of the options at the current hierarchy level allows an immediate selection of any of the options, but at the cost of less display area per icon. Steele ameliorates this less-display-area-per-icon effect by providing a large display area for the presentation of icons at the current hierarchy level, then reallocating this large display area to the next selected hierarchy level. As noted, Steele's approach has particular advantages and disadvantages, as does the Applicants' approach, and as do other ergonomic approaches to the design and operation of a user interface.


With specific regard to the Applicants' claimed invention, the Applicants specifically claim the use of different display areas for the first and second sets of icons. Steele specifically teaches using both display areas for each of the sets of icons, depending upon the currently active-for-selection hierarchy level. The Applicants specifically claim the sequential presentation of each icon in each set of icons, whereas Steele specifically claims the simultaneous presentation of all icons in each set of icons.

The IBM TDB reference teaches a sequential presentation of each icon, but is silent with regard to the presentation of hierarchies of icons. Applying the IBM TDB

teachings to Steele provides another means for ameliorating the less-display-area-per-icon effect of Steele, discussed above, but would not lead to the allocation of different display areas to different hierarchy levels, as specifically claimed by the Applicants. As noted above, the allocation of display areas by function (selection area, hierarchy-display area) is fundamentally different from, and substantially contrary to, the allocation of display area by data-structure (hierarchy level).

Because neither Steele nor the IBM TDB, individually or collectively, teach or suggest the sequential presentation of different sets of icons in different display areas, as specifically taught and claimed in claims 1 and 5, upon which all other claims depend, the Applicants respectfully request the Examiner's reconsideration of the rejection of claims 1-10 under 35 U.S.C. 103(a) as being unpatentable over Steele in view of the IBM TDB.

Respectfully submitted,



Robert M. McDermott, Esq.

Reg. No. 41,508

203-544-8889

**CERTIFICATE OF MAILING**

It is hereby certified that this correspondence is being deposited with the  
United States Postal Service as first-class mail in an envelope addressed to:  
COMMISSIONER OF PATENTS AND TRADEMARKS, Washington, D.C. 20231

On 2 January 2001

By

